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ABSTRACT

This study analyzes the gaps between supply and demand for workforce training in Washington State and recommends strategies for reducing the gaps. Using data from state and national surveys, supply and demand is analyzed in three categories: youth, adults, and adults with barriers to employment, from the perspectives of both employers and employees. Some of the findings are the following: (1) jobs requiring a high school diploma but no further training will be plentiful but low-paying, and employers report difficulty in finding young job applicants with occupation-specific, problem-solving skills, and positive work habits; recommendations include education reform, continuing the development of a school-to-work transition system, and increasing participation in vocational-technical education; (2) employers report difficulty in filling jobs with adults who have a vocational degree from a 2-year college, whereas adults report a lack of opportunity to participate in education to improve their job skills; and (3) economically disadvantaged adults, dislocated workers, and adults lacking basic skills face large gaps in the availability of services. Recommendations include the following: increasing efficiency at community colleges, adding community college students, increasing funding for job training programs, establishing a one-stop career center system, and developing new strategies for literacy education. (KC)

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Workforce Training

Supply, Demand, and Gaps

1996

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Workforce Training

Supply, Demand, and Gaps

1996

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Preface

"Workforce Training: Supply, Demand, and Gaps" analyzes the supply and demand for workforce training in Washington, identifies discrepancies between supply and demand, and suggests strategies for addressing the gaps.

This is the first such periodic analysis performed by the Washington State Workforce Training and Education Coordinating Board. The analysis, to be conducted every two years, is called for in Substitute Senate Bill 5992, passed by the 1995 Legislature and signed by the Governor, and in the Workforce Training and Education Coordinating Board's "High Skills, High Wages: Washington's Comprehensive Plan for Workforce Training and Education."

"Workforce Training: Supply, Demand, and Gaps" assesses the current situation for supply and demand for workforce training from the points of view of employers and of workers, and from broad categories of the working age population (youth, adults, and adults with barriers to employment).

This analysis draws upon a variety of research, including a recent survey of employers and evaluation of workforce training programs entitled "Workforce Training Results" by the Workforce Training and Education Coordinating Board.

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Appendix I

Executive Summary

This report analyzes the gaps between supply and demand for workforce training in Washington and recommends strategies for reducing the gaps. The Workforce Training and Education Coordinating Board (WTECB) prepared the report in response to an assignment established by Substitute Senate Bill 5992 enacted in 1995.

To assess the supply and demand for workforce training, the report considers the perspectives of both employers and workers, and analyzes separately three broad categories of people: youth, adults, and adults with barriers to employment. The strategies for reducing the gaps include both changes in the way we do business and increases in the supply of training in order to meet demand. Consistent with the mission of WTECB, the report emphasizes training for jobs that do not require a bachelor degree—80 percent of all jobs.

The following are the major findings and recommended strategies.

Youth

Supply, Demand, and Gaps

- Employers anticipated significant decline in the hiring of workers without a high school diploma.
- Jobs requiring no education beyond high school will remain a substantial share of employment, although wages will be relatively low compared to jobs requiring higher skills.
- Employers most frequently report difficulty finding job applicants with occupation-specific skills, the ability to solve problems, and positive work habits and attitudes.
- The number of secondary school youth will rise 17 percent in the next five years after which growth will be slower.
- Federal funds that provide out-of-school training and work experience to economically disadvantaged youth were reduced 22 percent from FY 1995 to FY 1996, enough to eliminate service to about 1,600 youth.

Strategies to Reduce the Gaps

Changing the Way We Do Business

- Continue education reform, especially progress on state education goals 3 and 4, which include the ability to solve problems and understand future career opportunities and the importance of work.
- Continue the development of a school-to-work transition system.

Growth

- Add 8,500 secondary vocational-technical education student FTEs over the next five years in order to match demographic growth and maintain current participation rates.

(Strategies for out-of-school youth are included below under strategies for individuals with barriers to employment.)

Adults

Supply, Demand, and Gaps

- There is a substantial gap between supply and demand for workers with a vocational degree or certificate from a two-year college or private career school. Employers report substantial difficulty finding qualified candidates, employers have not attracted sufficient workers from other states to close the gap, and employers expect future need to increase. There are about 28,000 job openings per year for workers with postsecondary vocational training, yet the state produces less than 21,000 graduates per year.

- There is an additional gap in meeting employer and worker demand for upgrading the skills of current workers. Surveys of employers and adults indicate that there is demand for about 230,000 training "episodes" per year. It appears that the present system falls short of meeting this demand by up to 70,000 training "episodes" per year. Moreover, the demand for upgrading will increase with population growth and with increasing occupational technical skill requirements.

- Washington's program for customized training that fits particular employer needs, the Job Skills Program, is funded at one-tenth of the national average on a per capita basis.

Strategies to Reduce the Gaps

Changing the Way We Do Business

- Increase efficiency at community and technical colleges through: distance learning, work-based learning, improved counseling, competency-based admission and instruction, and improved student services.

Growth

- Add 10,123 community and technical college workforce training student FTEs by the year 2000.

- Increase private career school enrollment at least 5.9 percent by the year 2000.

- Increase funding for the Job Skills Program by at least 50 percent.

- Consider tax incentives to increase employer investments in training.

Adults with Barriers to Employment

Three particular groups with barriers to employment are analyzed separately: the economically disadvantaged, dislocated workers, and adults lacking basic skills.

Supply, Demand, and Gaps

- Many potential training participants are unaware of education and training opportunities.

- There are over 250,000 economically disadvantaged adults in Washington State (using the Job Training Partnership Act definition). Roughly one-third receive some training or postsecondary education during a year.

- Federal budget reductions from FY 1995 to FY 1996 may eliminate funding for 370 disadvantaged adults served by programs under the Job Training Partnership Act.

- There were an estimated 60,000 dislocated workers in Washington during 1995, about 13,000 of whom participated in retraining. National research indicates that as many as 7,000 additional dislocated workers would have participated if retraining were available to them.

- The state's Employment and Training Trust Fund (ETTF) established under ESHB 1988, funds retraining for about 7,500 dislocated workers per year. Authorization for funding under ETTF expires in 1998.

- Federal budget reductions from FY 1995 to FY 1996 may eliminate federal funding for about 300 participants in retraining and other services for dislocated workers.

- At least 200,000 Washington adults are deficient at the most basic skill level tested by the State Adult Literacy Survey.

- About 60,000 adults with basic literacy needs participate in adult literacy programs per year.

Strategies to Reduce the Gaps

Changing the Way We Do Business

- Proceed with the planning and development of a One-Stop Career Center System.

- Test promising new strategies for adult literacy, including workplace literacy programs provided by or in partnership with employers, tax incentives, and new basic skills technology.

Growth

- Allocate remaining funds, if any, from the Employment Security Department's Administrative Contingency Fund to mitigate the reduction in federal employment and training funds for the economically disadvantaged.

- If net-impact and outcome evaluations find community and technical college retraining to be effective, then the business, labor, and education communities should work to reach an agreement on recommended funding for the ESHB 1988 program.

- Add at least 320 adult basic skills student FTEs at community and technical colleges by the year 2000 in order to match demographic growth and maintain current participation rates.

Introduction

This is the first analysis of the supply and demand for workforce training in Washington. Substitute Senate Bill 5992, enacted in 1995, requires the Workforce Training and Education Coordinating Board (WTECB) to assess the demand for workforce training, the supply of training the gaps between supply and demand, and strategies for addressing the gaps. WTECB is to administer such assessments every two years and to consider the perspective of both employers and workers. Consistent with the mission of WTECB, the analysis focuses on training for jobs that do not require a bachelor degree, approximately 80 percent of all jobs.

Workforce training is vital to the economic well-being of Washington's workers and businesses. Heightened competition, both interstate and international, technological change, and industrial restructuring show no signs of decreasing. The result is continuous change in labor markets, with major influences on the skill needs and income levels of the state's workforce, and on business performance. Real average wages of workers with only a high school diploma fell 12 percent from 1980 to 1990, and wages of workers without a high school diploma fell 27 percent.[1] Fifty-five percent of Washington employers have recently had difficulty finding qualified job applicants. Over 60 percent of the firms that had trouble finding qualified workers indicated the difficulty lowered their output, product or service quality, or productivity.[2]

Methods

The supply and demand analysis is broken down into broad categories of the working age population. This facilitates the development of multiple and distinct strategies for bridging different kinds of gaps. The report employs three categories of people: youth, adults, and adults with barriers. But the boundaries between the categories is indistinct. For example, existing youth programs have varying upper age limits, ranging from 21 to 25 years of age. Adults with barriers to employment include dislocated workers, the economically disadvantaged, and adults lacking in basic skills; and individuals may belong to one or more of these three subgroups.

The report addresses supply and demand with attention to educational levels and the adequacy of workers' skills. Both the quantity and quality of the workforce are considered. Program results are used to discuss qualitative issues. The report also presents strategies for bridging the gaps between supply and demand.

This is a very complex issue, and much of the desirable data is not available. In the absence of more detailed data, direct quantitative estimation of supply and demand for training is, in many cases, not possible. Individual wage reports for Unemployment Insurance, which provide quarterly employment and earnings information on 85 to 90 percent of working Washingtonians, provides a valuable source of information, but they include no information on worker characteristics or occupations. With the exception of the Census, survey data on Washington's workers are sparse, infrequent, and unstandardized. Much the same is true with employer surveys.

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[1]Office of Financial Management, " Washington Trends: Economy, Population, Budget Drivers, Taxes, and Spending," 1995.

[2]Survey in 1995 for "Workforce Training Results: An Outcomes Evaluation of Washington State's Workforce Training System," conducted for WTECB by Battelle. Percentages are estimated percentages for the total population of employers in the state based on survey responses. Sample responses are adjusted for differing rates of completing the questionnaire by different types of employers.

There are many aspects of this complicated and multifaceted issue that we have not been able to address fully given the time, resources, and data available.[3] The estimates in this analysis could be substantially improved by additional data.

The report draws upon recent state surveys conducted for WTECB, other surveys of Washington and national samples, the 1990 Census, Employment Security Department projections, the State Adult Literacy Survey, and management information from the Employment Security Department, the State Board for Community and Technical Colleges, the Higher Education Coordinating Board, and the Office of Financial Management, among other sources. Approximately, 1,900 firms responded to the employer survey conducted for WTECB. The responses have been weighted so that the percentages reported here reflect the actual population of employers in the state. (Firms employing fewer than five individuals and federal employers were not surveyed.) The projections of higher education participation rates and policy changes have been developed in cooperation with the Office of Financial Management.

Overview of Supply

Figure 1 illustrates the major components of the workforce training system that are analyzed in this report and the approximate number of participants during the 1994-95 school or program year. (Student FTEs and participant headcounts are not comparable.) Appropriations for these programs totaled approximately $675 million, constituting five percent of the state general fund budget.

[3]Several programs that serve particular populations and that, in general, are programmatically separate from the rest of workforce training have not been included in this analysis. These omitted programs include Vocational Rehabilitation, Developmental Disabilities, and training provided in adult and juvenile correctional facilities.

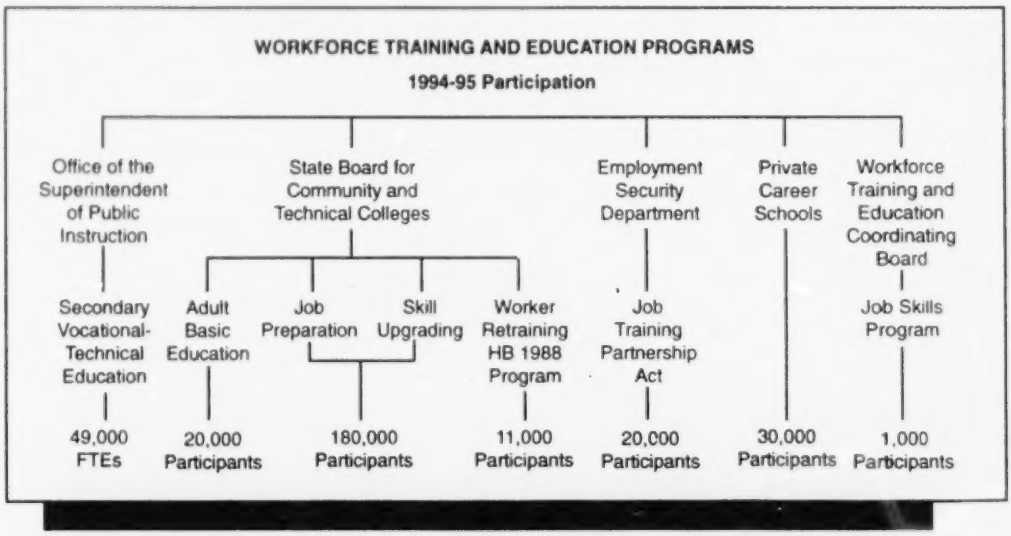

FIGURE 1

Analyzing Supply, Demand, and Gaps

Youth

Secondary Workforce Training and Education

Overall, there remains substantial demand for job applicants with only a high school diploma. The available jobs, however, tend to pay low wages. Demand is declining for workers with less than a high school education.

Labor Market Demand

Over the next five years, employers in Washington expect to decrease their hiring of workers without a high school diploma or GED. Based upon a statewide survey of employers, far more employers expect to decrease than expect to increase their hiring of workers without a high school education. (See Figure 2.) Still, there remains a sizeable, although low wage, labor market for workers without a high school education. Such workers are hired by more than half of all employers.

Labor market forecasts by the Employment Security Department predict continued stable demand between now and the year 2010 for workers with a high school education. Based upon sectorial growth projections, the hiring of workers with a high school education will remain at present proportions to hiring at higher skill levels.[4] More employers expect to hire workers with a high school diploma (77 percent) than expect to hire workers at any other educational level. Moreover, about a quarter of those employers expect to increase their hiring of such workers over the next five years. Hiring expectations for workers with a General Equivalency Diploma (GED) are more mixed with a substantial share of employers expecting to decrease hiring.

Lower skill jobs are often accompanied by low wages, especially for young workers. Based upon a sample of 1993-94 secondary vocational education completers from 19 school districts and two skills centers the third quarter after high school, the mean wage was $6.72 per hour, and the median wage was $6.00 per hour. In comparison, the mean wage of 1993-94 community or technical college vocational completers was $11.78 per hour, and the median wage was $10.10 per hour.[5] This four to five dollars an hour difference suggests the substantial benefits that students can obtain by continuing and completing training at the postsecondary level.[6]

Given current patterns, close to one-half of the workforce will spend at least a year between leaving high school and entering postsecondary education. Approximately half

[4]"Occupational Outlook," Employment Security Department, 1995.

[5]"Workforce Training Results," WTECB, 1996.

[6]This difference is also attributable to the greater work experience and maturity of postsecondary completers.

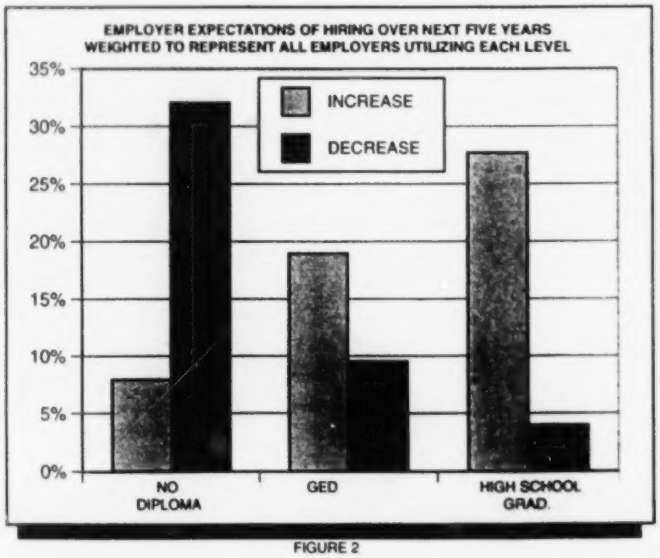

FIGURE 2

of workers will not complete a postsecondary program and one in six workers will not receive any formal education beyond high school during their working career. This points to the importance of workforce preparation as part of secondary education.

The basic and vocational skills levels of high school graduates varies considerably. Most high school students who move directly into the workplace do so without receiving significant vocational education in secondary school. Only about one-sixth of high school graduates complete a sequence of vocational courses.[7] Of those employers who hire high school graduates, one-third report at least some difficulty in finding qualified workers at that level.[8]

Program Results

In a recent survey conducted for WTECB, Washington employers rated new employees who were recent high school vocational program graduates. Most employers were either very or somewhat satisfied with these workers' skills. Particular skills that could be stronger include: computer skills (45 percent of employers satisfied), math (49 percent), problem solving or critical thinking (51 percent satisfied), and writing (57 percent of employers satisfied). In other skill areas, including skills for specific jobs, about 70 percent of the employers were satisfied with the skills of these young workers.

Employer reactions concerning all recent job applicants, not just secondary vocational graduates, indicate that employers have the greatest difficulty finding applicants with job specific skills. (See Figure 3.) Ninety-two percent of employers who had difficulty finding qualified applicants in the last 12 months, reported difficulty finding applicants with job-specific skills. Employers also frequently had difficultly finding applicants with the ability to solve problems or good work habits (respectively, 84 and 83 percent of employers reporting difficulty). Fewer employers had difficulty in finding job applicants with basic skills of math, writing, or reading (64, 58, and 38 percent of employers reporting difficulty.) Overall, 55 percent of employers had difficulty finding qualified applicants in the last 12 months.

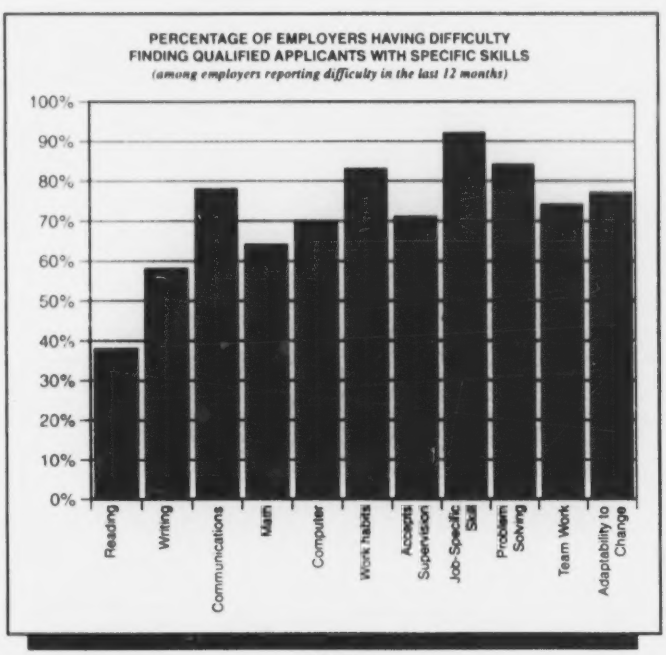

FIGURE 3

[7]"High Skills, High Wages: Washington's Comprehensive Plan for Workforce Training and Education," WTECB, 1994.

[8]"Workforce Training Results," WTECB, 1996.

Demographic Demand

Population growth alone will increase demand for secondary vocational education. The number of 16- and 17-year-olds will rise 17 percent over the next five years. At present participation rates, this will require an additional 8,500 Full-Time Equivalent Students (FTEs) in secondary vocational-technical education by the year 2000. (See Figure 4.) (Participation rates refers to the percentage of the age cohort who are enrolled in a program.) Beyond the year 2000, the secondary student population will continue to grow but more slowly with a further 15 percent increase by 2010. This will require an additional 7,200 vocational FTEs by the year 2010 at present participation rates.

Summary

Continued job openings for workers with a high school education, employer dissatisfaction with the specific and general workplace skills of job applicants, and employer difficulty in finding qualified applicants at the high school level all indicate a need for continued improvement in how secondary education prepares students for work.

Out-of-School Programs for Youth

For young people who are no longer in school, many of whom dropped out before completing high school, there are several state and federal employment and training programs. The upper age limits for these programs range between 21 and 25 years of age. These programs target youth with barriers to success, such as basic skills deficiency or local economic distress. The programs include:

- Job Training Partnership Act (JTPA) Title II-B (Summer Youth)
- JTPA Title II-C (Year-Round Youth)
- JTPA Title IV-B (Jobs Corps)
- Washington Conservation Corps
- Washington Service Corps

Federal Reductions

Together these programs served about 14,000 youth in 1992 and 1993. This number is adjusted to not double-count youth who participated in more than one program. For example, an individual may participate in JTPA Title II-B during the summer and JTPA Title II-C before or after the summer. Due to federal funding reductions, the JTPA Title II-B program served 1,300 fewer youth in the summer of 1995 than in the summer of 1993. Reduction in this program resulted from factors other than decreased demand for these employment and training services.

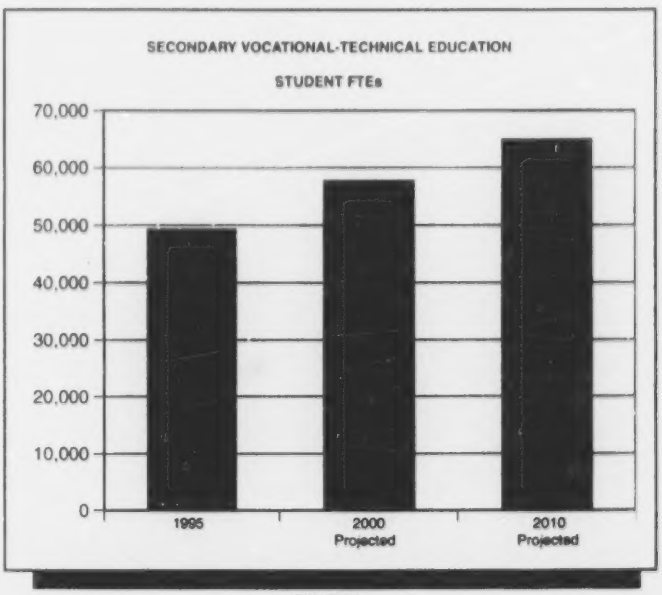

FIGURE 4

Federal reductions from FY 95 to FY 96 could have eliminated summer service to an additional 1,600 youth. The state Legislature, however, appropriated $5.4 million from the state general fund to preclude this gap. More federal reduction may occur in the future.

Program Results

WTECB recently completed an outcome evaluation of the 1993-94 JTPA Title II-C program for disadvantaged youth ages 16 to 21. When surveyed during the summer or fall of 1995, 60 percent of the participants reported they were employed. Three quarters after leaving the program, the mean hourly wage of those working was $6.48 per hour, and the median wage was $5.72 per hour.[9] It should be noted that the program provides services for only seven months on the average and young entry-level workers are typically paid low wages.

According to a survey of former participants, more of the participants could have used training in basic, computer, and occupation-specific skills. For example, even though 84 percent of the participants entered the program without a high school degree or GED, only about 45 percent reported receiving basic skills instruction and only about 40 percent of those said that it significantly improved their skills. While participants were generally satisfied with support services provided as part of the program, some services that could be improved include assistance with obtaining information about other government programs and job placement. The program might also do more to target preparation for higher paying occupations and industries.

WTECB is currently conducting a net impact evaluation of JTPA Title II-C. This evaluation, to be completed by the fall of 1996, and more thorough analysis of the outcome evaluation results, may provide further clues regarding effective strategies for serving out-of-school youth.[10]

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[9]"Workforce Training Results," WTECB, 1996.

[10]Community and technical college training of youth is covered in the following section. Youth in four-year colleges and universities are not covered in this report.

Adults

Preparatory Workforce Training & Current Worker Retraining

Overview of Training Supply

The major supply of workforce training for adults consists of the community and technical colleges, the Job Skills Program, private career schools, four-year colleges and universities,[11] and employer-provided training to incumbent workers. In addition, there is training targeted for adults who have barriers to employment, which is discussed in the next section.

The single largest supplier of public training is the state's system of community and technical colleges. The colleges, of course, serve other purposes besides workforce training, such as providing the first two years of baccalaureate education and basic skills instruction. This section focuses on workforce training and vocational credentials. This section, however, also considers the supply of academic associate degrees that function as terminal degrees. A substantial portion of students who receive academic associate of arts degrees move directly into the workplace without transferring to an upper division program. Substantial numbers of workers are employed with this educational credential, and survey responses indicate that employers recognize this as a distinct hiring level.

The Jobs Skills Program (JSP) is the state's program to provide customized training to meet the needs of particular employers. It is administered by WTECB. JSP currently provides training for about 1,000 workers per year. Expenditures are about $550,000 in state grants per year with employers providing at least a dollar-for-dollar match. The program supports the training of new workers and upgrading or retraining for current workers. Usually, the training is provided by a community or technical college.

Private career schools are private businesses that provide occupational training. They enroll over 30,000 students per year. The schools grant about 800 degrees each year, primarily associate degrees.

Employers provide a large amount of training to improve the skills of their incumbent workers. According to survey results, over 90 percent of Washington employers provide at least four hours of on-the-job training to their employees each year. Over 60 percent of employers offer classroom training, either at or off the worksite. Employers use a wide range of providers of classroom training. Only a small portion of employer-provided classroom training occurs in the public education and training system.[12]

Demand for Workforce Training

There is evidence that the state is currently falling short of the number of postsecondary vocational completers that employers need. Moreover, demand for workforce training is increasing due to demographic growth and increasing labor market demand. Not only is the workforce growing in size, but the skill requirements for workers within occupations and industries are increasing. In addition, if predictions of more rapid career changes hold true, retraining for career changes will add to the amount of training needed per worker.

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[11]The role of four-year colleges and universities in providing workforce training that does not result in a degree is not well measured. However, undoubtedly a significant number of individuals receive important workforce training or retraining at four-year institutions without receiving a degree, some without ever intending to receive a degree, and some by continuing their education after having received a degree.

[12]Much of the analysis of training need in this report focuses on classroom training, in part because of the substantial public sector role in this area. The employer survey questions used in estimating demand clearly referred to enrollment, courses, and the type of training provided by community and technical colleges. Therefore, the demand and supply for employer-provided, non-classroom training is properly excluded from analyses based on those surveys.

Demographic Growth

In analyzing demographic growth, it is important to consider not only the size of the adult population, but also its age distribution. Younger adults attend workforce classes in higher proportions than older adults. Younger students at the community and technical colleges also average more FTEs per student than older students. Beginning over the next several years, the state's population of 17- to 27-year-olds will begin increasing rapidly and will continue to expand rapidly for a period of about 10 to 12 years before leveling off. This is due to the "baby boom echo" reaching young adulthood. As a result of this demographic growth, the state's colleges can expect a substantial increase in enrollment demand. (See Figure 5.)

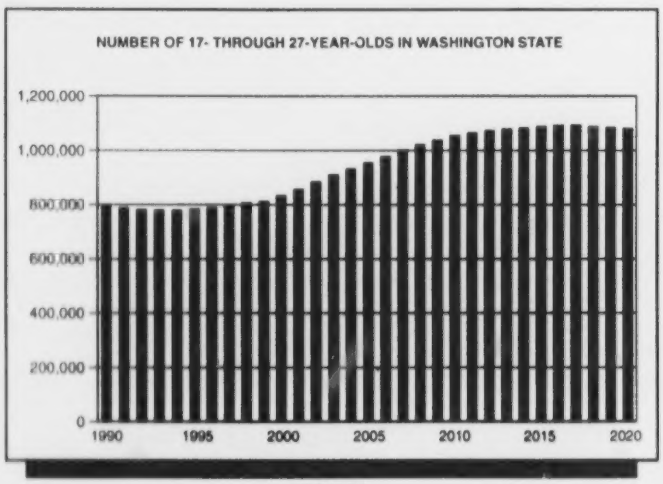

FIGURE 5

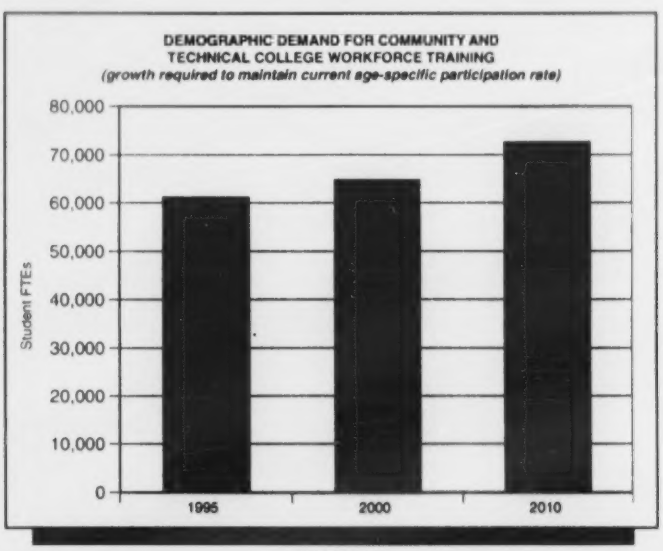

FIGURE 6

Simply maintaining the current percentage of the age cohort that is enrolled—the age-specific participation rate—will require enrollments to increase. Maintaining current participation rates in workforce training will require community and technical college enrollments, on a headcount basis, to rise from 190,000 in 1995 to 202,500 in 2000, and 226,500 in 2010. On an FTE basis, this means an additional 3,600 FTEs by the year 2000 and a further 7,800 FTEs by 2010. (See Figure 6.) In order for private career schools to maintain age-specific participation rates, enrollment will have to increase by 5.9 percent by the year 2000 and a further 16.2 percent by 2010.

These projections of community and technical college enrollments are consistent with the enrollment goals established by HECB. HECB recommends increasing lower division enrollments, of which community and technical college workforce training is a part, at a rate equal to growth in the age cohort in order to maintain current participation rates.[13]

[13]WTECB employs a somewhat different approach from the annual forecasts produced by the Office of Financial Management (OFM) that are used in calculating the HECB enrollment goal. Therefore, the numbers are not directly comparable with HECB or OFM forecasts. WTECB's projections include all enrollment, not just the 91 percent of enrollment funded by the state and tuition. WTECB utilizes this approach in order to calculate the total supply of vocational training. The participation rate projections in this report have been developed in cooperation with OFM and are compatible with their participation rate projections.

Labor Market Demand

There are indications that the current participation rate is already falling short of labor market demand for workers with vocational credentials and that demand is increasing. WTECB recently surveyed employers about their experience and expectations in hiring workers at various educational levels. Most frequently employers identified difficulty in finding qualified workers with a vocational credential and expected to increase hiring over the next five years. (See Figures 7 and 8.)[14]

Eighty-one percent of employers who tried in the past 12 months to find job applicants with a vocational degree or certificate had difficulty finding qualified applicants. And about 35 percent of employers who hire workers with a vocational degree or certificate expect their need for such workers to increase over the next 5 years. In comparison, 69 percent of employers who attempted to find job applicants with a graduate or professional degree and 58 percent who attempted to find applicants with a bachelor degree had difficulty finding qualified applicants. Thirty-one percent who hire workers with a graduate or professional degree and 27 percent who hire workers with a bachelor degree expect their need for such workers to increase over the next 5 years.

Washington employers currently report less difficulty finding qualified job applicants with academic as opposed to vocational two-year degrees, but they also expect hiring of academic associate degrees to increase. (See Figures 7 and 8.) Given relatively modest levels of employer difficulty in finding qualified applicants with academic associate degrees, maintaining the current participation rate for academic associate degrees may be adequate to meet labor market demand.

[14]Some of the reported difficulty finding applicants is probably due to the relatively high degree of specialization within these educational credentials. Demand is greatest for particular specialties.

Economic forecasts also indicate substantial and growing demand for workers with vocational credentials. The Employment Security Department projects the educational level associated with job openings expected

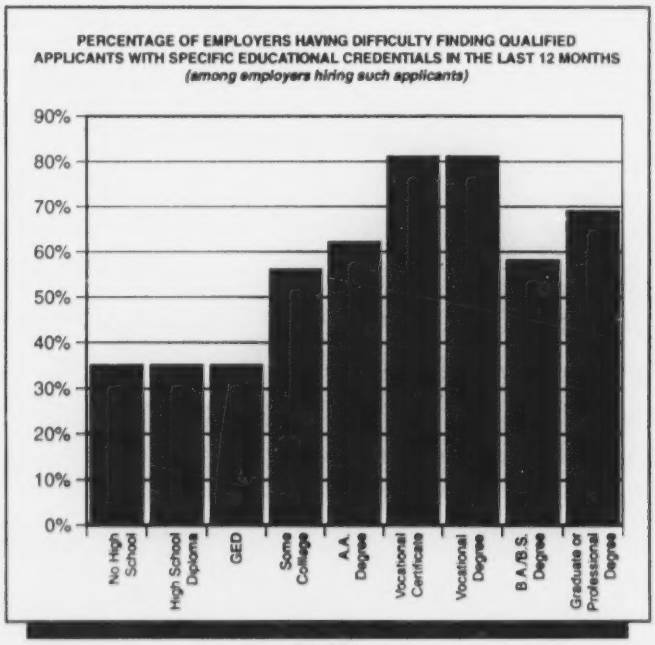

FIGURE 7

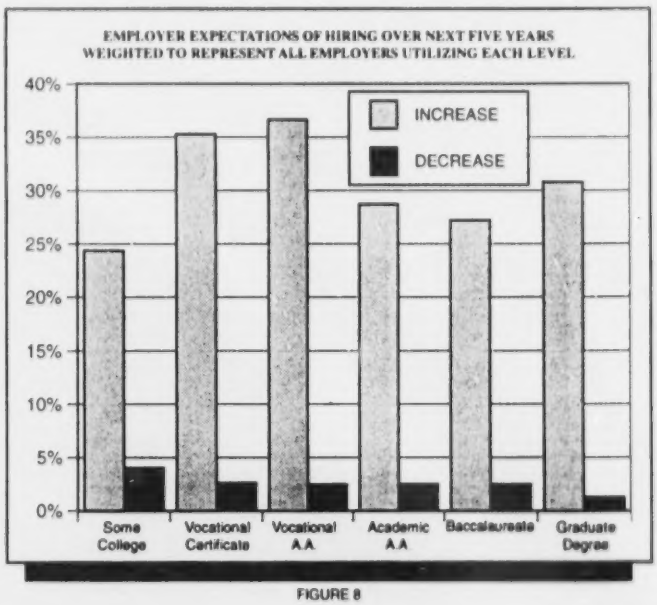

FIGURE 8

in the future. To do this, the Department forecasts employment and net job openings by occupation based upon forecasted growth for each industrial sector.[15] The Department then identifies the educational level expected of employees filling these openings by using the Bureau of Labor Statistics (BLS) skill level classifications. The BLS scale identifies four job levels by the education they require:

Level 1 ▶ Requiring bachelor, professional, or graduate degree

Level 2 ▶ Requiring two or three years of postsecondary education, training or specific experience, or a two- to four-year apprenticeship

Level 3 ▶ High school diploma preferred and up to two years on-the-job training, specific work experience or training

Level 4 ▶ Less than high school education and workplace training

Employment Security's forecast indicates that on the average there will be 28,000 net job openings per year over the next five years in Level 2 jobs.[16] This is the BLS level that most closely corresponds to a vocational associate degree.[17]

Comparing 28,000 expected job openings per year to the current educational supply, reveals that the supply falls substantially short of demand. The community and technical colleges and accredited private career schools graduate about 19,000 students with associate degrees per year. More than 6,000 of these individuals transfer to four-year institutions. This results in a net output of fewer than 13,000 graduates with terminal associate degrees per year. Another roughly 7,700 individuals receive vocational certificates from the community and technical colleges. (Many of the individuals receiving vocational certificates do not meet the BLS Level 2 definition, however, they are counted here in order to be conservative in estimating the gap between supply and demand.) Altogether, there is an instate supply of approximately 20,700 graduates with training at the BLS Level 2 per year, compared to 28,000 net job openings at this educational level. (See Figure 9.)

In addition to the instate supply of credentialed workers, there is a pool of individuals migrating to the state each year. During 1985-1990, the net effect of migration to and from other

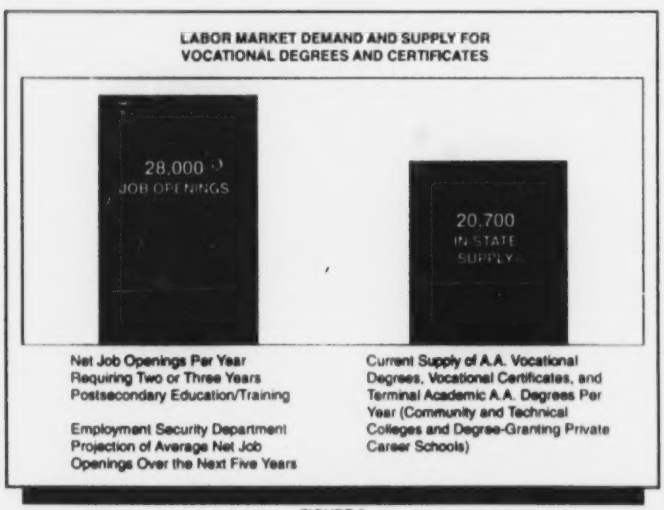
LABOR MARKET DEMAND AND SUPPLY FOR VOCATIONAL DEGREES AND CERTIFICATES
28,000
JOB OPENINGS
20,700
IN-STATE SUPPLY
Net Job Openings Per Year Requiring Two or Three Years Postsecondary Education/Training
Employment Security Department Projection of Average Net Job Openings Over the Next Five Years
Current Supply of A.A. Vocational Degrees, Vocational Certificates, and Terminal Academic A.A. Degrees Per Year (Community and Technical Colleges and Degree-Granting Private Career Schools)

FIGURE 9

[15]The net job openings forecast adjusts for normal changing of jobs within an occupation and counts only openings which result from growth in the number of jobs or from separations such as retirement in which a worker leaves a particular occupational category.

[16]Although Employment Security only forecasts five-year averages for net openings, it is probable that openings will be somewhat below the five-year average in the early years of the period and somewhat higher by the year 2000. This is because the annual forecasts for the overall economy predict a larger economy and employment for the year 2000 than for earlier years. Precise forecasts by year are almost always undone by the recessions and spurts of the business cycle.

[17]Despite the imprecision of the BLS scale and its inability to compensate for increasing training requirements, a comparison of BLS, Level 2 demand to current educational output is instructive.

states averaged about 3,700 more individuals per year with an associate degree. Overall, migration has remained at about this level.

While net migration adds to the supply of vocational credentialed workers, the population moving to the state actually has a lower percentage of individuals with an associate degree than does the current population. The opposite is true regarding individuals with graduate and bachelor degrees. According to Census data, the net effect of migration to and from other states has been to increase the proportion of graduate and baccalaureate workers in the state.[18] Thus, while there is some demonstrated potential for addressing shortages of graduate- and baccalaureate-level workers through in-migration, experience demonstrates more limited ability to import workers at the associate level. We should not anticipate solving the shortage of workers with vocational credentials through migration. (See Figure 10.)

Figure 11 shows the total annual supply of vocational credentialed workers compared to the number of annual net job openings at this educational level. Adding net-migration to the instate supply produces an estimated annual supply of 24,400 new workers with a vocational credential, compared to 28,000 net job openings per year. The gap, therefore, is approximately 3,600 vocational credentials per year.[19]

Maintaining age-specific participation rates alone will not close this gap. Assuming that community and technical college workforce training keeps pace with demographic growth as discussed earlier, another 1,300 individuals with vocational degrees and certificates would be added annually to the workforce in the year 2000. This would still leave an estimated gap between 28,000 net openings and 25,700 new credentials, 23,000 of which would be produced in-state.

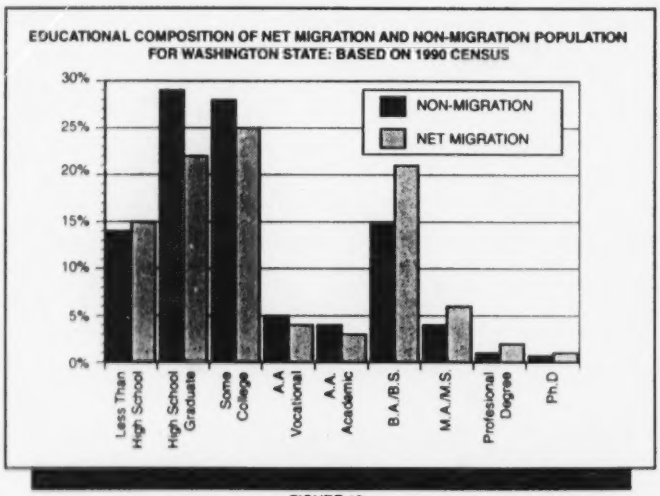

FIGURE 10

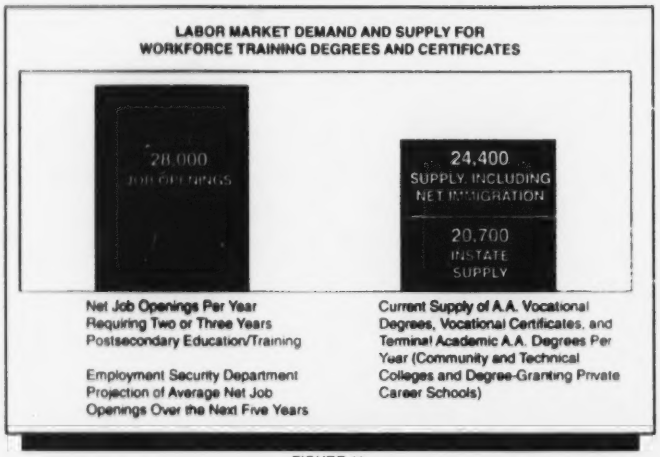
LABOR MARKET DEMAND AND SUPPLY FOR WORKFORCE TRAINING DEGREES AND CERTIFICATES
28,000
24,400
SUPPLY, INCLUDING NET IMMIGRATION
20,700
INSTATE SUPPLY
Net Job Openings Per Year Requiring Two or Three Years Postsecondary Education/Training
Employment Security Department Projection of Average Net Job Openings Over the Next Five Years
Current Supply of A.A. Vocational Degrees, Vocational Certificates, and Terminal Academic A.A. Degrees Per Year (Community and Technical Colleges and Degree-Granting Private Career Schools)

FIGURE 11

[18]Academic associate degree workers show no proportional inflow. Vocational certificate workers are not identifiable in Census data.

[19]There are further positive and negative adjustments that could be made in this comparison. Many Level 2 jobs are filled by workers with BAs or by workers with less education but extensive on-the-job training. On the other hand, 10-15 percent of adults in all education categories are out of the workforce at any given time, and a significant number of vocational-credentialed workers are employed in occupations outside BLS, Level 2.

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Demand for Retraining and Upgrading for Current Workers

Employers need continuing education and training for their current workers in order for their skills to stay current. This need is in addition to employer demand for new workers with vocational skills discussed in the previous section.

HECB recently authorized a poll of Washington State adults that found 16 percent "planned to return to school" over the next three to four years.[20] A national survey of non-retired adults using a more broadly worded question found that 41 percent planned to "enroll in a work-related class" in the next three years.[21] These results indicate that between 620,000 and 1.3 million Washington adults are potentially interested in continuing education or training. This estimate includes those intending to pursue a bachelor or graduate degree and some adults with continuing education plans not related to work. Inevitably, some individuals' expectations will be unfulfilled and others will engage in training that they do not currently foresee.

Formal workforce training is likely to consist of repeated episodes over a worker's life, complemented by more frequent employer-provided on-the-job training. When surveyed in mid-1995, community and technical college vocational students who had left school in 1993-94 indicated they had substantial interest in additional training. Over one-third were interested in training in computer skills, and almost as many expressed interest in job-specific skills training.[22]

Employers surveyed for WTECB were asked to estimate the proportion of their workers in need of further classroom training, such as that provided at a local community college or vocational school in order to reach the desired level of productivity. Their responses indicate that 610,000 current workers need additional classroom training. The survey did not include workers who are employed by firms with fewer than five employees and federal government workers. The survey also did not include individuals who are unemployed or out of the workforce. A further upward adjustment would be appropriate to take into account workforce turnover due to migration and replacement of retirees with younger workers.

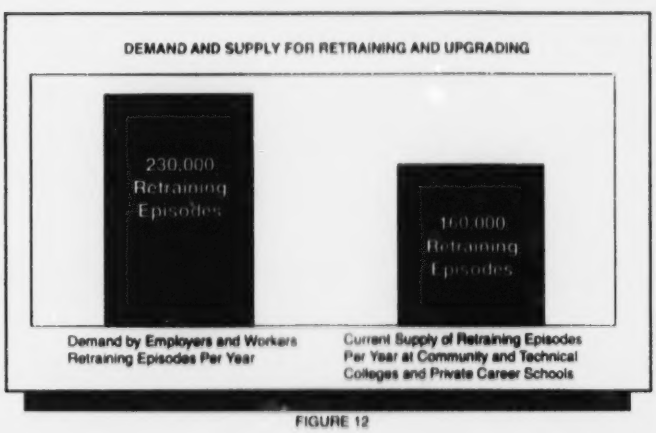
DEMAND AND SUPPLY FOR RETRAINING AND UPGRADING
230,000 Retraining Episodes
160,000 Retraining Episodes
Demand by Employers and Workers Retraining Episodes Per Year
Current Supply of Retraining Episodes Per Year at Community and Technical Colleges and Private Career Schools

FIGURE 12

[20]Elway Research for the Higher Education Coordinating Board, 1995.

[21]"What the Public Wants from Higher Education," Social and Economic Sciences Research Center at Washington State University, 1995.

[22]"Workforce Training Results," WTECB, 1996.

If we assume that present retraining and upgrading needs can be spread out over about three years (to be gradually succeeded by new training needs in a continually changing economy), then these figures taken together indicate a demand for retraining or upgrading the skills of roughly 230,000 current workers per year. That need will rise by more than 1.6 percent per year as the adult population grows. At present, community and technical colleges and private career schools supply about 160,000 completed training "episodes" per year.[23] (See Figure 12.)

Community and technical colleges have an annual workforce training enrollment headcount of 190,000 students, including students classified as job preparatory and job upgrading. Roughly a quarter of these students, however, drop out before completing a substantial amount of training, and many others do not complete their training and return the next year. The community and technical colleges estimate there are about 120,000 completed training "episodes" per year. An estimated 15,000 additional episodes result from non-transferring academic students and from workforce-related basic skills students. (About 20,000 of these 135,000 completed episodes include the award of a degree or certificate.)

Licensed private vocational schools enroll between 30,000 and 35,000 students in degree and non-degree programs and probably provide 25,000 or less completed training episodes per year. In addition, there are many short-term training classes provided by vendors, which are not licensed schools in a wide range of skills and specialties. A great deal of software training, for example, is carried out in this way. No reliable estimates exist for the amount of such training.[24]

It is unlikely, however, that the total of all the unmeasured resources can fill the gap between the annual demand for classroom training for about 230,000 incumbent workers and the present supply of roughly 160,000 training "episodes." This gap will be particularly important over the next ten years as the baby boom echo sharply increases the number of young adults in the prime training ages, and employers need to replace the skills of the first wave of retiring baby boomers.[25]

Program Results

WTECB's "Workforce Training Results" reports very positive results for most aspects of community and technical college workforce training. Over 80 percent of individuals who completed a vocational degree or certificate in 1993-94 were employed the third quarter after completion, and their mean wage rate was $11.78 per hour. Former participants reported they were generally very satisfied with their program. About 85 percent of employers who had recently hired a completer of a college vocational program were satisfied with the employee's overall quality and productivity. There remains,

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[23] A training "episode," as used here is any amount of formal classroom training.

[24] The wording of the HECB and WTECB survey questions is likely to have excluded much of this training in the responses received.

[25] Four-year institutions also make substantial contributions to workforce retraining. Four-year institutions grant about 21,000 BAs and 9,000 graduate degrees per year. However, most of these degrees represent initial career preparation before individuals enter the workforce and do not count towards the need levels as assessed by the WTECB employer survey or by the Elway survey. Of more direct relevance to this discussion, the four-year institutions supply a significant but unknown amount of non-degree training to current workers through "continuing education" and other programs.

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of course, some room for improvement. Program areas that could be improved are job placement assistance and career and education counseling. The colleges might also do more to offer computer training and work-based learning opportunities.

Employers generally do not contract with two- or four-year colleges to continue the education or training of their current workers. Only ten percent of employers contract with a community or technical college and five percent with a four-year college or university for this purpose. Survey results show significant percentages of employers perceive a mismatch between the kinds of training they are seeking for their current workers and that offered by public providers. [26]

Increasing the Availability of Training

In order to meet labor market demand for training and retraining, the community and technical colleges must expand workforce training beyond current participation rates.

As discussed above in relation to demographic growth, maintaining current participation rates at the community and technical colleges will increase output in the year 2000 by about 1,300 credentials. Maintaining current participation rates will also expand the supply by 8,000 other training episodes.[27] However, this growth only keeps pace with an expanding population and economy. It will not close the existing gaps, which this report estimates at about 3,600 vocational credentials per year and up to 70,000 training "episodes" per year for retraining and upgrading the skills of adults.

Closing the gaps will require increases above maintaining current participation rates. In order to make the adjustments manageable both in terms of funding and administration, it makes sense to close the gaps incrementally. A reasonable rate would be two percent per year beyond maintaining current participation rates. To put this expansion in perspective, approximately 11 out of every 200 working-age adults presently participates in community and technical college workforce training every year. This expansion would raise that rate by one person, from 11 to 12 out of every 200 working-age adults by the year 2000. (See Figure 13.)

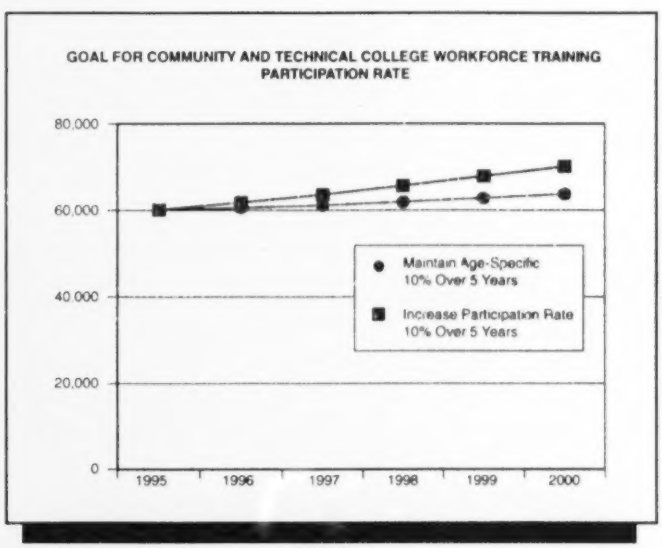

FIGURE 13

[26] "Workforce Training Results," WTECB, 1996.

[27] Maintaining community and technical college workforce training participation rates would increase training output in the year 2000 by about 350 vocational AAs, 475 vocational certificates and about 7,500 other completed retraining episodes. Maintaining current participation rates for academic AAs would result in about 500 additional terminal AAs per year and a similar number of completed episodes of training in the AA program, which do not result in AAs.

Increasing annual growth by an additional two percent per year over the next five years would result in roughly an additional 600 vocational degrees, 800 vocational certificates, and 12,500 other training episodes in the year 2000. Expansion at two percent per year above maintaining participation rates would require increasing FTEs by another 6,500 over five years. This would be 6,500 FTEs in addition to the enrollment goal of HECB. Corresponding financial aid would also be required. (See Financial Aid, Appendix B.)

Together, matching demographic growth and responding to labor market demand will require community and technical college workforce training to expand by about 3.3 percent per year. The total growth in workforce training FTEs would be 10,123 FTEs phased in over five years for an average annual increase of about 2,025 FTEs. (See Figure 14.)

Job Skills Program

Washington's Job Skills Program is a state-funded program targeting worker training customized to the particular needs of individual employers. The vast majority of this training is conducted at community and technical colleges, and, therefore, largely included in the FTE and enrollment counts above. Currently, the program trains about 1,000 wokers per year. Forty percent of the trainees are incumbent workers and the rest are new hires.

Training customized to the needs of a particular empoyer can be delivered through other programs. These other programs include retraining financed by the Employment Training Trust Fund (ESHB 1988), JTPA Title III, and the State Board for Community and Technical Colleges Workforce Development Fund. However, the Job Skills Program is the only state-funded program with employer-customized training as its primary purpose, and the Employment Training Trust Fund and the Job Training Partnership Act can only provide training for certain categories of individuals.

Current state appropriation for Job Skills Program is one-third the level of funding in the 1991-93 biennium. On a per capita basis, funding is about one-tenth the national average among the 47 states having such a program.[28]

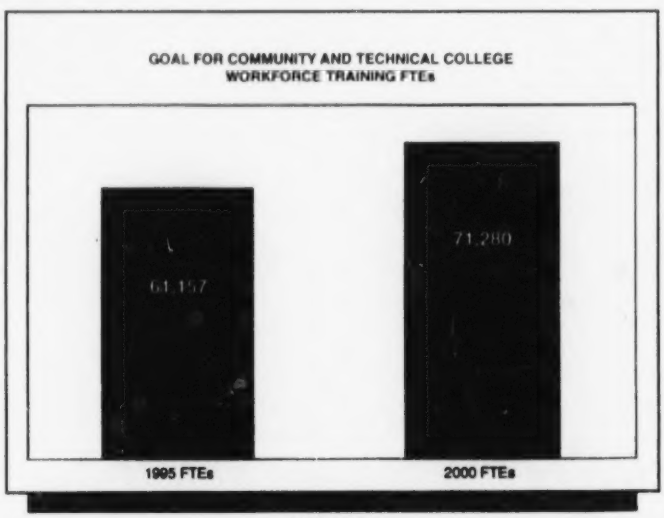

FIGURE 14

[28]Steve Duscha Advisories.

Adults With Barriers to Employment

This section of the report analyzes the workforce training supply and demand for three major groups of adults with barriers to employment: the economically disadvantaged, dislocated workers, and adults lacking in basic skills. Some individuals have multiple barriers and may, therefore, be included in more than one of these groups.

Economically Disadvantaged

In order to analyze the economically disadvantaged population, this report adopts the federal definition used by JTPA. Roughly speaking, the economically disadvantaged include those whose household income, if averaged over six months, is below 124 percent of the federal poverty standard (about $15,000 per year for a family of three). The guidelines are scaled to family size, and welfare and unemployment compensation are not included as income in the calculation.

Based on Census data for Washington, there are approximately 250,000 adults under age 56 who meet this definition who do not have a postsecondary degree and are not unable to work. Also not counted are those in institutions or in military service. Nearly half (46 percent) of these 250,000 adults are employed at least part time. About one-third are enrolled in classroom education at some point during the year. Some unknown number of disadvantaged adults will pass out of temporary hard times without additional assistance beyond unemployment compensation, public assistance benefits, and job information. Others, particularly younger adults, are temporarily poor while participating in education or training.

Given that relatively low-wage jobs are a substantial share of the current and predicted labor market, there is no feasible strategy for raising all households above this income level. An adequate supply of workforce training will reduce but not eliminate the proportion of low income families. Beyond availability of training, other policies are needed to reduce the number of low income households.

Supply of Training

The following list estimates present education and training services for economically disadvantaged adults:

- Financial aid for about 24,000 disadvantaged students at community and technical colleges. Some of these students also receive support services from JTPA or from Job Opportunity and Basic Skills (JOBS).
- Training without financial aid for 10,000 disadvantaged students at community and technical colleges.
- Classroom training by other providers with JTPA assistance, including tuition support for 1,900 individuals.
- On-the-Job Training (OJT) through JTPA for 1,000 individuals.
- Other training or experience to enhance workplace or basic skills for many of the remaining 10,000 JTPA participants.[29]

[29]Besides education and training, JTPA provides other services such a job search assistance and support services.

- Community and technical college workforce-related General Equivalency Diploma (GED), English-as-a-Second-Language (ESL), and Adult Basic Education (ABE) instruction for roughly 20,000 individuals not counted in the above categories.
- Publicly funded workforce-related ESL outside of community and technical colleges for roughly 8,000 individuals.
- Workforce-related adult basic education through community-based organizations for roughly 7,000 individuals.
- Jobs Corps, Washington Conservation Corps, and Washington Service Corps participation for about 3,000 individuals.
- Financial aid at public four-year colleges and universities for 13,000 individuals.
- Education at public four-year colleges and universities without financial aid for 4,000 individuals.
- Financial aid at private four-year colleges and universities for 3,000 individuals.
- Financial aid while attending private career schools for 5,000 individuals.

Unknown numbers pay for training entirely on their own or are provided training by their employers or through nonprofit funding sources.

A significant number of individuals are double counted in this list because they receive more than one of these services during the year. However, a reasonable estimate would be that in excess of 85,000 economically disadvantaged adults receive some workforce-related occupational or basic skills training each year. This corresponds well to the Census-based estimate of one-third of the economically disadvantaged involved in education, despite some differences between what each count includes. Many individuals also receive other types of employment-related services, such as job search and placement assistance, through JTPA or other programs.

Support services are important to enable disadvantaged adults to participate in workforce training. Such services include income support and child care. Regular and extended unemployment benefits, Pell grants, AFDC, and the Employment and Training Trust Fund (ETTF) are all important sources of income support for those engaged in training. Several programs, notably JTPA, ETTF, and JOBS, provide child care funding.

It is unclear how many disadvantaged adults should be served by the workforce development system each year. It would be unreasonable to expect to serve the entire existing population of economically disadvantaged adults in a single year, taking care of the backlog all at once. Simply providing a service to one household member during the year is often insufficient to boost a household out of low income status. Nor do all of those who are economically disadvantaged want to take part. On the other hand, while many people leave low income status every year, additional people will be added to the low income adult population as they age into the workforce, suffer declining circumstances, or migrate from other states or nations. Existing research is inadequate to quantify all of these factors.

Program Results

"Workforce Training Results" examined one of the programs that targets disadvantaged adults—JTPA Title II-A. JTPA Title II-A serves only adults who are disadvantaged and, on the average, provides service for only about six months. Program services are restricted by federal regulations and funding levels.

The third quarter after leaving JTPA Title II-A, less than half of the employed 1993-94 participants had individual earnings that would typically enable an AFDC household to achieve financial independence. While most participants were satisfied with the program, the survey results suggest that a substantial percentage of the participants could have used more services than the program provided and, perhaps, for a longer period of time.

Based on survey responses, services for which a substantial percentage of participants expressed additional need include: basic skills instruction, computer training, training in specific occupational skills, career counseling, job placement assistance, and information about other government programs. Career counseling, occupational training, and job placement assistance might do more to target occupations and industries that pay a higher wage. Men were generally less satisfied than women that they received the services they needed.

"Workforce Training Results" also examined the needs of potential training participants who had not enrolled in one of the training programs included in the study. The potential participants examined were individuals who had registered with the Employment Service to search for a job and were mostly economically disadvantaged and lacking postsecondary education or training. Their survey results show that a lack of information about training opportunities and financial assistance is a frequently cited barrier to enrolling in training.

Changing Supply

There is a clear need to continue to increase the skills of the economically disadvantaged through workforce training. It is difficult, however, to set firm targets for changing the supply of training for the disadvantaged given the lack of better evidence on program efficacy and actual demand.

Policies to expand the general availability of training (e.g., expansion of community and technical college enrollment) will benefit significant numbers of the economically disadvantaged if accompanied by the expansion of financial aid. In addition, increased training for populations that overlap with the disadvantaged, (e.g., training for out-of-school youth or dislocated workers), will also benefit many individuals who are disadvantaged.

The federal funds for JTPA Title II programs decreased by 16 percent from FY 95 to FY 96. Cuts of this magnitude could have eliminated capacity to serve over 2,000 persons per year. The state appropriation for summer youth employment and training precluded most of this gap. Still, the reduction in the Title II-A adult program could eliminate service to approximately 370 disadvantaged adults.

Dislocated Workers

The Employment Security Department estimates that in 1995 there were about 60,000 dislocated workers in Washington. The national literature indicates that about one-third of dislocated workers will take advantage of retraining if it is made available. Based upon these numbers, in 1995 there were about 20,000 dislocated workers in Washington who wanted retraining.

During the 1994-95 school year, about 13,000 dislocated workers received classroom retraining, counting both two-year college enrollments and Employment Security Department programs. Overall, approximately 11,500 dislocated workers attended community and technical colleges (SBCTC estimate),

and a further 1,350 attended other training programs with JTPA assistance.[30] About 7,500 of the college participants received occupational training, basic skills instruction, and "New Chance" assistance using funds from the Employment and Training Trust Fund (ETTF) established by ESHB 1988. Approximately 5,100 of the 11,500 college participants received support services from JTPA Title III. (Funding from JTPA Title III and ETTF is combined for many dislocated workers). The JTPA figures include federal program participants under the North American Free Trade Act (NAFTA) and the Trade Adjustment Assistance Act (TAA). (See Figure 15.)

About 700 former workers and workers' spouses received tuition waivers at community and technical colleges under the Timber, Salmon, Retraining Benefits program, although not all of these individuals qualify as dislocated workers. Some of these workers also received student financial aid from state and/or federal sources. Some additional dislocated workers undoubtedly obtain retraining through public and private institutions outside these programs, some with public financial aid and support, and some on their own resources. During the 1994 program year, over 4,500 additional dislocated workers received services other than retraining or related financial assistance through JTPA Title III.

The difference between the roughly 13,000 dislocated workers who were retrained and probable demand from about 20,000 dislocated workers, indicates a gap of about 7,000 dislocated workers who want retraining opportunities.

The supply of retraining opportunities may sharply decline in the near future. Authorization for funding of worker retraining through the state Employment and Training Trust Fund expires in 1998. This is the source for most of the dislocated-worker retraining in the state. In addition, the federal budget for JTPA Title III was reduced by two percent from FY 95 to FY 96. This reduction could eliminate services for about 300 dislocated workers.

Of course it is impossible to forecast exactly how many workers will be dislocated in the future. General economic and industrial forecasts, however, suggest that significant levels of worker dislocation are likely to be a recurrent if not continuous situation for the foreseeable future.

Program Results

WTECB has contracted for net-impact evaluations of JTPA Title III and community and technical college retraining funded by the Employment and Training Trust Fund. "Workforce Training Results" provides information from an outcome evaluation of JTPA Title III. After leaving the program, most of the 1993-94 participants had what most would probably characterize as good

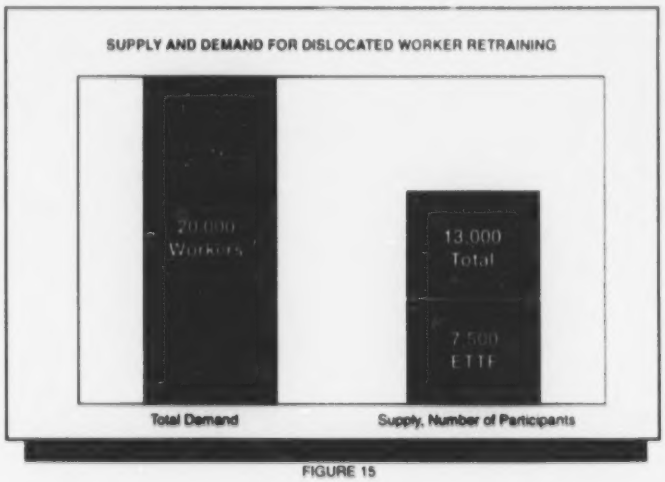

FIGURE 15

[30]There were less than 200 OJT assignments provided through JTPA Title III.

wages, although for some, not up to the level they once had. Among those employed six to nine months after leaving the program, the mean wage rate was $12.15 per hour, and the median wage was $11.15 per hour. When surveyed in the summer or fall of 1995, 84 percent of the 1993-94 participants indicated that they were employed.

Most of the JTPA Title III participants were satisfied with their program, especially with the training. The main areas for improvement are certain support services. In particular, the survey responses suggest that the program could improve assistance with job placement. Other services that could be improved include help in obtaining information about other government programs, financial assistance, career counseling, and—for the relatively small number who reported needing such assistance—child care.

The State Board for Community and Technical College's evaluation of the Employment and Training Trust Fund retraining program found that three to six months after completing the program, 89 percent of 1993-94 completers were employed, and the median wage was $10.29 per hour.[31] SBCTC found that the program could improve partnerships with business and labor; career planning and job search assistance, more computer training, access for Hispanics, and partnerships with community-based organizations.

Adults Lacking in Basic Skills

Demand

In 1992, the State Adult Literacy Survey (SALS), a performance-based skill assessment of the state adult population, was administered in Washington. According to the SALS, there are between 200,000 and 500,000 adults who are deficient at the most basic skill level tested (Level 1). (An estimated 200,000 would get a failing grade on the lowest level test section, while 500,000 would fail at least one question.) At Level 1, many adults are unable to respond to much of the survey. Others can perform simple, routine tasks involving brief texts. For example, some can total an entry or a deposit slip, locate the time and place of a meeting on a form, and identify a piece of specific information in a brief news article.

Adult Basic Skills Education

Community and technical colleges provide a substantial amount of workforce-related Adult Basic Skills Education and GED training, serving about 9,000 persons per year. (Workforce-related basic skills does not include instruction intended solely for personal enrichment.) Community-based literacy programs serve about 7,000 persons per year in workforce-related literacy programs. This does not count either basic skills education provided as a subsidiary part of JTPA programs or developmental programs to prepare students for college level work. There are also significant amounts of workplace literacy activities provided by employers. About five percent of employers offer classroom basic skills instruction to their employees.

Major changes in K-12 education or changes in interstate or international migration could affect the demand for basic skills education. In the absence of reliable forecasts of such changes, it is appropriate to assume that current per capita levels of need are likely to persist. Although estimates of the population receiving some basic skills training in a year are possible, these cannot be used to quantify demand because of inadequate information on program results in raising skill levels. Therefore, maintaining present levels of

[31] This wage rate is not comparable to the wage rate reported above for JTPA Title III due to the difference in the post-program time period, among other factors.

service is probably the appropriate response. A full analysis is needed in order to determine whether to expand or shift program direction.

Limited English Proficiency

Based on the 1990 Census, approximately 60,000 adults (ages 19-64) in the state report they do not speak English "well." Approximately 20,000 people per year participate in workforce-related English-as-a-Second-Language (ESL) instruction, about half through the community and technical colleges. This does not count ESL education included as a subsidiary part of either occupational programs at community and technical colleges or JTPA programs. Community-based organizations also receive funding to provide ESL services under Refugee Assistance and Adult Immigrant Education programs. It is not possible to accurately forecast future demand for ESL services because it is unknown at what rate current programs remedy English language deficiencies and due to uncertainty about future levels of immigration. However, significant demand for these services will likely continue.

General Equivalency Diploma

In 1994, over 11,000 Washingtonians earned General Equivalency Diplomas (GEDs). The major public service provided to GED candidates is GED and ABE courses at community and technical colleges. A majority of all GEDs are granted to persons under the age of 25.

Analysis of demographic and educational forecasts do not provide any indication of a major shift in the role or function of the GED in education and workforce training. And evidence about the effectiveness of a GED as a workplace credential is inconclusive.

Pending significant changes in secondary school retention or other training efforts, we expect the present age-specific participation rates to continue. Thus, annual GED awards are likely to rise to exceed 12,250 in 2000, and approach 14,500 in 2010.

Even Start Program

Even Start is a state and federally funded family support program for parents with educational attainment scores below the eighth-grade level and children who are at risk of school failure. In 1994-95, Even Start served approximately 1,400 adults in Washington. In addition to parenting sessions, parents take ABE, ESL, or GED-preparation courses. A 1994 third-party evaluation identified significant participant gains in each of three key Even Start components: educational attainment, parenting skills, and child development.

Increasing Supply

It is unknown exactly how many people are served per year by all the adult literacy programs in the state. Besides the programs discussed here, there are programs provided by the Department of Social and Health Services, the Department of Corrections, and by other state agencies. A 1992 study at the University of Washington estimated that there are over 60,000 participants per year in public adult literacy programs.[32]

Moreover, less is known about the demand for adult basic skills instruction and about program effectiveness than is known for other areas of workforce training. Lacking better information, a baseline projection using current services per capita may be appropriate. Currently, community and technical college programs reach over 20,000 students per year with a combination of ABE, ESL, and GED courses, utilizing over 16,000 FTEs per year. Keeping pace with the projected growth in adult population (adjusted for age) would result in annual growth of almost two percent per year in enrollment and, therefore, about 320 additional FTEs per year.

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[32] "Adult Basic Skills Instruction Services and Needs in Washington," William Zumeta, 1992.

Strategies

Major Strategies for Bridging the Gaps and Costs

The Workforce Training and Education Coordinating Board recommends the following strategies for reducing the gaps between the supply and demand for workforce training.

Youth

Education Reform

The state should continue education reform. Creating an educational system characterized by high academic standards and performance-based assessment of student skills and knowledge should improve the basic academic skills of future high school completers. Improving basic skills will reduce remediation costs currently born in the postsecondary system and "second-chance" programs for the disadvantaged.

Essential learning requirements for goals 3 and 4, as established by the Legislature in 1993, must be developed in order to meet employer concerns about job applicants' problem solving abilities and work habits. Those goals are that students:

> 3)Think analytically, logically, and creatively, and to integrate experience and knowledge to form reasoned judgments and solve problems; and
>
> 4) Understand the importance of work and how performance, effort, and decisions directly affect future career and educational opportunities.

Cost: The biennial appropriation for education reform is $48,466,000.

School-to-Work Transition

The state should continue the development of a School-to-Work Transition System (STWT). A STWT system consists of several key components, including: 1) combining vocational and academic education, 2) integrating classroom and work-based learning, and 3) articulating K-12 education with continued postsecondary education. Creating a STWT system should increase the workplace competencies and occupational skills of high school completers, enhance the relevance of education to at-risk students, and quicken the pace at which students enter and complete postsecondary education and training.

Cost: The state has been authorized to receive $25,800,000 in federal funds for STWT over the next five years.

(In addition, the biennial appropriation for education reform indicated above includes $2,970,000 for STWT projects and $20,000,000 in student learning improvement grants that are planned to be integrated with STWT reforms.)

Funding for Increasing Numbers of Secondary Vocational-Technical Students

Over the next five years, an additional 8,500 secondary vocational-technical FTEs will be required to match the expected population growth in that age cohort. Currently, roughly $4,000 is expended per FTE.

Cost: Approximately $6.8 million additional funding each year—$6.8 million the first year, $13.6 million the second year, and $34 million additional funding in the fifth year (constant dollars not adjusted for inflation).

Out-of-School Programs for Youth

Strategies for these programs are considered as part of the general policy area of training for the economically disadvantaged discussed below.

Adults

Access to Community and Technical Colleges

In order to match demand for employees with occupational skills, the number of community and technical college FTEs should increase. Just to maintain current participation, rates will require an additional 3,643 FTEs over the next five years (an average of 729 more each year). However, there is evidence that current participation rates do not meet labor market demand for employees with postsecondary vocational credentials. Gradually closing the labor market gap by accommodating an additional two percent per year increase in workforce training FTEs will require an additional 6,480 FTEs over the next five years (an average of 1,296 more each year). This brings the total of additional FTEs to 10,123 over five years or an average of 2,025 more FTEs each year.

Demand may also increase due to such factors as School-to-Work Transition/Tech Prep increasing the number of secondary students interested in articulating into postsecondary training. Moreover, federal reductions in funding (for JTPA, JOBS, ABE) that in many cases supports college students may necessitate additional state funding, especially for financial aid, if current participation rates are to be maintained.

Cost: To maintain current participation rates will require approximately $2.1 million in additional funding per year—$2.1 million the first year, $4.4 million the second year, and $10.6 million by the fifth year in additional state funding. These estimates assume current rates of state-supported FTE (91 percent of all workforce FTE), current local tuition collection rates of about $1,000 per FTE, and are in constant 1995 dollars, not adjusted for inflation. To maintain current participation rates and close the gap in meeting labor market demand will require approximately $5.9 million in additional funding per year; $29.5 million by the fifth year in additional funding.

Increased Efficiency at Community and Technical Colleges

Increased efficiency refers to increasing the number of students who meet their educational goals at a given level of FTE funding. There are several particular strategies for increasing efficiency. For example, competency-based education can recognize student abilities learned in non-college settings. Distance learning technology can enhance the ability to take advantage of existing capacity. Student support services can improve student retention so more students complete their intended degree or certificate. Better counseling can bring more focus to students' efforts. Work-based learning can make non-campus facilities and equipment available.

Cost: The State Board for Community and Technical Colleges requested $9 million from the 1996 supplemental budget for efficiency improvements during the next fiscal year. The Governor's budget request included $3 million. The final budget as enacted appropriated $2 million.

Private Investments and Public Tax Incentives

Bridging the supply/demand gap for worker training is not solely the responsibility of the public sector. Employers and employees should increase their own investments in maintaining and upgrading the skills of the current workforce. In order to stimulate this

private sector behavior, the state should consider tax incentives for increased investments in training.

Cost: The cost to the state of tax incentives for training is highly variable and can be set at a level to match state policy and budgetary goals. The Governor's 1996 supplemental budget request included up to $10 million in B&O tax credits for worker training and $4.3 million for B&O tax credits for employer training of AFDC recipients.

Job Skills Program

The Job Skills Program (JSP) should be expanded in order to meet employer demand for customized classroom training. Such expansion can assist in the state's economic development strategies including recruiting new firms to the state. JSP is currently funded at about $700,000 per year. On a per capita basis that is equal to $.30 per worker in the state. The national average for such programs is ten times that amount.

Cost: The cost could be tailored to meet state policy and budget goals. A fifty percent increase to JSP would cost approximately $350,000 per year.

Individuals with Barriers to Employment or Education

(Economically Disadvantaged Workers and Adults Lacking in Basic Skills)

One-Stop Career Centers

The state should proceed with the planning and development of a system of One-Stop Career Centers. One-Stop Career Centers will provide universal and consistent access to basic employment-related services such as assessment and counseling, information about government programs, labor market information, consumer information about training provider results, and job placement assistance. Such a system will improve both the effectiveness and efficiency of service to individuals with barriers to employment or education and to all other individuals as well. One-Stop Centers will increase efficiency through more effective coordination of what are now separate categorical programs. Better labor market information, job placement assistance, and consumer reports will help customers find occupations with growing demand and training that best prepares them to meet employer needs. "Workforce Training Results" reports that many potential participants are unaware of education and training opportunities and that substantial percentages of former participants would have preferred more career and education counseling, information about government programs, and job placement assistance.

Cost: Federal funds may be available to implement state designs in addition to moneys from the expected federal block grants for workforce development should be targeted to the One-Stop Career Center system. How much funding beyond federal dollars will be necessary, if any, is unknown at this time.

Targeting the Economically Disadvantaged

Funds from the expected federal block grants for workforce training should be used, in part, to meet the needs of the economically disadvantaged, including those of out-of-school youth. The state's plan for the block grants should address the process by which this targeting will be managed. The plan should also address how the state will manage the targeting of resources to employment and training strategies that have demonstrated effectiveness.

In response to the pending federal funding reductions beginning July 1, 1996, remaining funds, if any, from the Employment Security Department's Administrative Contingency

Fund should be used to mitigate the reduction in employment and training services to the economically disadvantaged.

Cost: Funding necessary beyond federal appropriations is to be determined.

Retraining of Dislocated Workers at Community and Technical Colleges

The state should continue to serve the retraining needs of dislocated workers. The major program to meet this need is community and technical college retraining funded from the Employment and Training Trust Fund established by ESHB 1988. During 1996, WTECB will be overseeing an independent net-impact analysis of the program. In addition, SBCTC will produce its annual accountability report. If the college retraining is found to be an effective means of meeting the retraining and reemployment needs of dislocated workers and employers, then the business, labor, and education communities should work to reach an agreement on a recommended strategy of funding for the program.

Cost: Potential cost depending on later recommendation—at 1995-96 levels, approximately $30 million per year (in 1995 dollars).

Improved Service to Adults Lacking in Basic Skills

Programs providing basic skills training to adults should take advantage of the most effective strategies for retaining students and improving their basic skills. The Office of Adult Literacy should provide leadership and manage this process. As recommended by the Washington State Advisory Council on Adult Education and accepted by the Workforce Training and Education Coordinating Board: "The Office of Adult Literacy should give high priority to the development of a formal process to identify, prioritize, disseminate, and support the adoption of program practices designed to improve learning in basic skills programs for adults."

Promising strategies include: workplace literacy programs provided by or in partnership with employers, with possible tax or other incentives; new basic skills technology; and Even Start. One of the goals of the State Board for Community and Technical Colleges' efficiency strategies discussed above will be improvement in adult basic skills education. In addition, measuring the effectiveness of adult literacy strategies requires the development of common assessment instruments and performance indicators.

Cost: College efficiency strategies are included above under increased efficiency at community and technical colleges.

Funding for Increasing Numbers of Adult Basic Skills Students

In order to maintain current community and technical college participation rates for individuals whose workforce training plans include basic skills only, an additional 1,600 FTEs over the next five years will be required (an average of 320 more each year). This is in addition to the preceding estimate of growth for general access to community and technical colleges.

Cost: To maintain current participation rates will require approximately $1,240,000 in additional funding per year; $6,200,000 by the fifth year in additional state funding. These estimates assume current rates of state-supported FTE (91 percent of all workforce FTE) and are in constant 1995 dollars not adjusted for inflation.

Workforce Training

Supply, Demand, and Gaps

1996

APPENDIX

Budget: State Support Share of Total Workforce Student FTE

Demand for community and technical college workforce training is forecast in total FTE, including both state-supported and self-supported components, with the exception of some contracted programs exclusively for foreign students. The following shows the proportion of workforce-related FTE which is state supported.

- ►State supported ..... 91 percent
- ►Contract supported ..... 7 percent
- ►Student supported ..... 2 percent

Financial Aid

For a significant portion of the workforce, in particular for adults with barriers and for youth, financial aid in the form of federal and state grants, loans, and work study jobs is necessary. Therefore, any expansion of program needs to include corresponding financial aid availability. In the 1993-94 year, students at the community and technical colleges received the following amounts of support:

Federal Grants

- ►Pell ..... $ 29.5 million
- ►Work-Study ..... 4.3 million
  (includes about 20 percent employer match, mostly off campus)

State Grants

- ►State Need Grant ..... $16.9 million
- ►Work-Study ..... 4.9 million
  (includes match but is mostly on campus)

Federal Loans

- ►Stafford ..... $8.1 million

These are the amounts for all community and technical college students. Separate data are not currently available, but workforce students as defined in this assessment probably receive about half of this aid. Counting academic associate students who move directly into employment would raise the workforce share of this aid total.

In order to maintain access across income levels and to include people most in need of training, these resources will need to grow proportionately with any program expansion driven by population growth and increased labor market demand.

Methodological Issues

Many serious technical difficulties hinder the preparation of a quantitative public policy analysis of supply and demand for workforce training. This is true whether the issue is defined in terms of employers' demand for workers' skills, or workers' demand for training. Some of this difficulty results from data that is uncollected or not standardized. But at least as many problems arise because of the nature of the problem. The Washington State labor market is not a closed system and it has many variances from a simple market situation.

With regard to data, we have only imperfect knowledge of how many and which kind of jobs require which levels of education or skill. Several different coding schemes have been used for jobs, for worker training, and for skills levels. With the exception of the decennial Census, survey data are sparse

and sometimes conflicting. There is no Washington-specific data on the level of training required for specific occupations, nor on how the incumbents in occupations acquired their essential job skills, nor how those skills relate to wages. There is only limited data on the level of employer-provided training. Other topics such as the connection between worker training and benefits such as health insurance are also beyond the scope of available data. Periodic surveys which would provide data on issues such as these would greatly improve the specificity of assessments like this one.

Structurally, labor markets suffer from imperfect information and high transaction costs, which make it difficult, if not impossible, to determine economic supply and demand relationships, especially when other relevant factors are continually shifting. In addition, both jobs and workers are heterogeneous. Each worker possesses a set of skills, attributes, and preferences, which are different from other workers. In any given occupation, many workers may have the option of shifting to a different occupation, but different workers have different options. In addition, Washington State continues to receive substantial net in-migration from other states. Based on Census data covering 1985-1990, net migration has a higher proportion of college graduates and high school non-completers when compared to non-migrating Washingtonians. The influence of labor markets on the composition and size of this flow is difficult to determine.

Answers to survey questions about employers' demand for trained workers and workers' demand for training are imperfect, due to uncertainty about future macro-economic and industrial conditions. These difficulties aside, surveys would need to be frequent, with results compared to actual hiring and training, before they could be used as a firm foundation for specific occupational forecasts.